

PROJECT: NUSEL

Title

NUSEL: National Underground Scientific and Engineering Laboratory

Physics Goals

Provide Infrastructure and Site for a wide spectrum of deep underground science, including solar neutrino detection, long baseline experiments, double beta decay, geophysics, geology, geobiology, engineering, HEP and NP physics experiments, Dark Matter detection, national security issues

Features

*Depths to 8000 feet, 57 levels, >600 km of drifts and tunnels, multiple vertical access
Would become the deepest and largest underground laboratory for basic scientific research in the world*

Technological Challenges (if any)

Establishment of a new national facility underground within an EPSCOR state, politics, perceived competition with other projects and scarce funds, NSF, NSF's unfamiliarity with large projects,

LBNL Contribution and Interest

Next Generation Experiments, Low background counting facilities and expertise, Facilities management and operation experience, laboratory construction issues, possible underground accelerators, possible double beta decay experiments, possible low energy solar neutrino experiments, possible long baseline experiments,

Status

NSF and OMB Review, awaiting NAS report (due November, 2002) and vetting by NSF's Science Board

Timeline

Timescale: funding as soon as 2004 or 2005, and then for at least 30 years

Location

Lead S.D., if not then greenfield sitse such as San Jacinto or Nevada locations

Collaboration

PI's: U. Washington, U. Minnesota, Columbia, South Dakota School of Mines, U. Penn (Haxton, Wilkerson, Marshak, Conrad, Farwell, Lande)

Funding Sources

NSF for the laboratory, NSF and DOE for Experiments.

Resources, Links, and References

int.phys.washington.edu/NUSL/
SNOMASS, NeSS other presentations

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